

This opinion is not binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS HAAS, CLAUDIA BRASSE,
GUIDO STOCHNIOL, JURGEN GLENNEBERG
and WOLFGANG WOLL

Appeal 2007-2985
Application 10/669,978
Technology Center 1700

Decided: 26 July 2007

Before: FRED E. McKELVEY, *Senior Administrative Patent Judge*,
and ADRIENE LEPIANE HANLON and MICHAEL P. TIERNEY,
Administrative Patent Judges.

McKELVEY, *Senior Administrative Patent Judge.*

DECISION ON APPEAL

1 **A. Statement of the case**

2 Appellants Thomas Haas, Claudia Brasse, Guido Stochniol, Jurgen
3 Glenneberg and Wolfgang Woll (hereafter "**Haas**") seek review under
4 35 U.S.C. § 134(a) of a final rejection of claims 1-15.

5 Claims 16-18 also appear in the application on appeal and have been
6 objected to as depending from a rejected claim.

Claims 19-27 also appear in the application on appeal and have been allowed.

We have jurisdiction under 35 U.S.C. § 6(b).

The application on appeal was filed on 24 September 2003.

Haas claims benefit of an earlier filing date based on provisional application 60/414,327, filed 30 September 2002.

The real party in interest is Degussa AG (Düsseldorf, Germany).

The Examiner rejected claims 1-15 under 35 U.S.C. § 103(a) as being unpatentable over Tsao.

<u>Name</u>	<u>Patent Number</u>	<u>Issue Date</u>
Tsao	US 4,889,689	26 Dec. 1989

Tsao is prior under 35 U.S.C. § 102(b).

B. Record on appeal

In deciding this appeal, we have considered *only* the following documents:

1. Specification, including original claims (there are no drawings).
2. Office action entered 14 September 2005.
3. Amendment received 16 December 2005.
4. Final Rejection entered 30 January 2006.
5. Amendment filed 13 April 2006.
6. Office action entered 25 April 2006.

1 7. Appeal Brief dated 22 September 2006 (numerous appeal
2 briefs have been filed to apparently overcome various informalities; the only
3 appeal brief we have considered is the Appeal Brief filed 22 September
4 2006.)

5 8. The Examiner's Answer entered 17 November 2006.

6 9. Reply Brief dated 17 January 2007.

7 10. The Tsao patent relied upon by the Examiner.

8 11. PTO bibliographic data sheet for the application on appeal

9 12. Claims 1-15 on appeal as set out in the Amendment filed
10 13 April 2006.

11
12 **C. Issues**

13 The principal issue on appeal is whether Haas has sustained its burden
14 of showing that the Examiner erred in rejecting the claims on appeal as
15 being unpatentable under 35 U.S.C. § 103(a) over Tsao.

16
17 **D. Findings of fact**

18 The following findings of fact are believed to be supported by a
19 preponderance of the evidence. To the extent that a finding of fact is a
20 conclusion of law, it may be treated as such. Additional findings as
21 necessary may appear in the Discussion portion of the opinion.

22 The invention

23 The invention relates to aqueous hydrogen peroxide solutions
24 (1) characterized by a maximum amount of alkali metals, alkaline earth
25 metals and amines and (2) said to be suitable for epoxidation of olefins.
26 Specification ¶¶ 0002 and 0021.

1 According to the specification, "the vast majority of hydrogen
2 peroxide is produced by the well-known anthraquinone process."
3 Specification ¶ 0003.

4 Highly purified hydrogen peroxide is known. Specification ¶ 0010.

5 Apparently, highly purified hydrogen peroxide is essentially free of
6 anionic components like phosphates and nitrates that are said to be necessary
7 for the stabilization of hydrogen peroxide solutions. Specification ¶ 0010.

8 Phosphates and nitrates are added to commercially available aqueous
9 hydrogen peroxide solutions as stabilizers to reduce hazardous
10 decomposition of hydrogen peroxide. Specification ¶ 0016.

11 The Haas invention is an aqueous hydrogen peroxide solution
12 comprising (1) less than 50 wppm (based on the amount of hydrogen
13 peroxide) of an alkali metal or an alkaline earth metal, (2) less than 50 wppm
14 of an amine having a pK_B of less than 4.5 and (3) at least 100 wppm of an
15 anion or compound that can dissociate to form anions. Specification ¶ 0022.

16 Apparently, the alkali metal, alkaline earth metal and the amine have
17 adverse effects in hydrogen peroxide used to epoxidize olefins.
18 Specification ¶ 0025.

19 On the other hand, phosphates or nitrates which are frequently used to
20 stabilize aqueous hydrogen peroxide solution are said to have no or very
21 little effect on the activity and selectivity of a hydrogen peroxide
22 epoxidation catalyst. Specification ¶ 0025.

23 The specification makes clear that the lower the concentration of
24 alkali metals, alkaline earth metals and amines the better. Specification
25 ¶¶ 0027 and 0029.

Anions are advantageously present in the hydrogen peroxide solutions of the invention "in the usual stabilizing amounts." Specification ¶ 0035.

Claims on appeal

Claim 1 as reproduced in the Appeal Brief is not accurate.

Accordingly, we turn to the claims as presented in the Amendment filed 13 April 2006.

Claim 1 on appeal is representative of the claimed composition.

Claim 1 reads:

An aqueous hydrogen peroxide solution comprising:

i) less than 50 wppm alkali metals, alkaline earth metals or combinations thereof in total, irrespective whether the alkali metals or alkaline earth metals are present in cationic or complex form;

ii) less than 50 wppm of amines having a pK_B of less than 4.5 or the corresponding protonated compounds in total; and

iii) at least 100 wppm anions or compounds that can dissociate to form anions in total,

the wppm being based on the weight of hydrogen peroxide.

Tsao

Tsao relates to a hydrogen peroxide solution said to be useful for disinfecting a soft lens. Col. 1:11-12.

In order to overcome perceived problems in the field, Tsao describes addition to hydrogen peroxide solutions of particular amines. Col. 2:30-39.

Tsao does not describe the method for making the hydrogen peroxide mentioned in the patent. In the words of Haas: "there is no information whatsoever with respect to how to make [the] hydrogen peroxide [described

1 by Tsao]." Amendment received 16 December 2005, page 10, last
2 paragraph, fourth line.

3 The Tsao invention, while interesting, is not the most relevant
4 information provided by Tsao.

5 Rather, it is Tsao's description of the prior art which surfaces as highly
6 relevant to the claims on appeal.

7 Specifically, we refer to the description by Tsao of drawbacks said
8 to exist in unstabilized hydrogen peroxide solutions. Col. 1:56 through
9 col. 2:7:

10 Hydrogen peroxide in the form of a dilute solution, e.g., about
11 0.5 to 6% by weight in water, is known to be effective for use
12 with contact lenses in order to kill any contaminating
13 microorganisms.

14 One drawback with unstabilized dilute hydrogen
15 peroxide solutions, however, is that without the use of a
16 stabilizer or a combination of stabilizers, the aqueous peroxide
17 solutions characteristically decompose over a period of time.^[1]

18 The rate at which such dilute hydrogen peroxide solutions
19 decompose will, of course, be dependent upon such factors as
20 pH and the presence of trace amounts of various metal
21 impurities, such as copper or chromium, which may act to
22 catalytically decompose the same. Moreover, at moderately

¹ Any observant purchaser of hydrogen peroxide in a brown bottle from a drug store to be used to cleanse wounds knows that after a certain amount of time the hydrogen peroxide decomposes and becomes ineffective.

1 elevated temperatures the rate of decomposition of such dilute
2 aqueous hydrogen peroxide solutions is greatly accelerated.

3 A large variety of stabilizers have been proposed for use
4 with hydrogen peroxide to deactivate trace catalytic impurities,
5 including stannous salts, ethylene diamine tetraacetic acid and
6 the like.

7 Tsao goes on to state that while stabilizers can be added, for the
8 purpose of the Tsao invention the pH has to be maintained between about 5
9 and about 7—because the solution may come into contact with the eye.
10 Col. 2:33.

11 Additional findings appear in the Discussion section of this opinion.
12

13 **E. Principles of law**

14 A claimed invention is not patentable if the subject matter of the
15 claimed invention would have been obvious to a person having ordinary skill
16 in the art. 35 U.S.C. § 103(a); *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727,
17 82 USPQ2d 1385 (2007); *Graham v. John Deere Co. of Kansas City*, 383
18 U.S. 1 (1966).

19 Facts relevant to a determination of obviousness include (1) the scope
20 and content of the prior art, (2) any differences between the claimed
21 invention and the prior art, (3) the level of skill in the art and (4) any
22 relevant objective evidence of obviousness or non-obviousness. *KSR*,
23 82 USPQ2d at 1389, *Graham*, 383 U.S. at 17-18.

24 A person having ordinary skill in the art uses known elements and
25 process steps for their intended purpose. *Anderson's-Black Rock, Inc. v.*

1 *Pavement Salvage Co.*, 396 U.S. 57, 90 S.Ct. 305 (1969) (radiant-heat
2 burner used for its intended purpose in combination with a spreader and a
3 tamper and screed); *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282, 96 S.Ct.
4 1532, 1537 (1976) (the involved patent simply arranges old elements with
5 each performing the same function it had been known to perform); *Dunbar*
6 *v. Myers*, 4 Otto (94 U.S.) 187, 195 (1876) (ordinary mechanics know how
7 to use bolts, rivets and screws and it is obvious that any one knowing how to
8 use such devices would know how to arrange a deflecting plate at one side
9 of a circular saw which had such a device properly arranged on the other
10 side).

11 To render an invention obvious, the prior art does not have to address
12 the same problem addressed by a patent applicant. *KSR*, 127 S.Ct. at
13 1741-42, 82 USPQ2d at 1397; *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897
14 (Fed. Cir. 1990) (en banc); *In re Kemps*, 97 F.3d 1427, 1430, 40 USPQ2d
15 1309, 1311 (Fed. Cir. 1996) ("[a]lthough the motivation to combine here
16 differs from that of the applicant, the motivation in the prior art to combine
17 the references does not have to be identical to that of the applicant to
18 establish obviousness." citing *In re Dillon*).

19 20 **F. Discussion**

21 Scope of claim 1

22 We begin our obviousness analysis with a determination of the scope
23 of claim 1.

24 During prosecution of a patent application, claims are given their
25 broadest reasonable interpretation consistent with the specification. *In re*
26 *Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969)

1 (unpatented claims given broadest reasonable construction consistent with
2 specification).

3 The claims require that the aqueous hydrogen peroxide solution have
4 less than 50 wppm of alkali metal, alkaline earth metals or amines with a pK_B
5 less than 4.5.

6 Nothing in the specification requires that an alkali metal, an alkaline
7 earth metal or an amine with a pK_B less than 4.5 be present in the claimed
8 composition.

9 Accordingly, the claim requires only aqueous hydrogen peroxide and
10 an anion, *e.g.*, a stabilizer.

11 The claim is broad enough to read on the following composition: an
12 aqueous hydrogen peroxide solution comprising water, hydrogen peroxide
13 and at least 100 wppm [based on the hydrogen peroxide] of anions.

14
15 Applicability of Tsao

16 Tsao differs, if at all, in that the unstabilized dilute hydrogen peroxide
17 described by Tsao arguably does not have anions, *e.g.*, a stabilizer.

18 However, Tsao turns right around and says one skilled in the art
19 would use a stabilizer.

20 The Tsao revelations are totally consistent with the representations by
21 Haas in the Haas specification that stabilizers are known to be used in
22 aqueous hydrogen peroxide solutions to prevent decomposition.
23 Specification ¶¶ 0025, 0035 and 0036.

24 On this record it is abundantly clear that one skilled in the art would
25 know (1) the need for a stabilizer in an aqueous solution of hydrogen

1 peroxide and (2) how to add a proper amount of stabilizer depending on the
2 circumstances.

3 The fact that Haas is interested in an epoxidation catalyst and Tsao is
4 concerned with solutions to clean lenses does not help Haas's case. The fact
5 is that Tsao renders obvious "the objective reach" of claim 1. *KSR*, 127
6 S.Ct. at 1742, 82 USPQ2d at 1397. Stated in other terms, claim 1 is so
7 broad that it includes subject matter which would have been obvious even if
8 an argument might be made that it also covers subject matter which might
9 not have been obvious. *In re Muchmore*, 433 F.2d 824, 167 USPQ 681
10 (CCPA 1970) (claims which include obvious subject matter and non-obvious
11 subject matter are not patentable under § 103).

12 Claims 2-8

13 Claims 2-8 stand or fall with claim 1 because like claim 1 they do not
14 require the presence of an alkali metal, an alkaline earth metal or an amine.

15 Claim 8, while identifying amines, does not require that they be
16 present—only that if they are present then the amine is one of the amines set
17 out in claim 8.

18 Claims 9-15

19 These claims require the presence of a base having a pK_B of at
20 least 4.5.

21 The base can be ammonia. *See* claims 14-15.

22 Tsao is said by Haas not to describe the use of ammonia.

23 On this particular record, it does not matter whether Haas describes
24 the use of ammonia.

1 In the Examiner's Answer (admittedly for the first time during
2 prosecution of the application), the Examiner in response to an argument in
3 the Appeal Brief (also made for the first time during prosecution) found:

4 [1] it would have been within the skill of one of ordinary skill
5 in the art to determine a suitable amount of the bases with a pK_B of at
6 least 4.5 in order to achieve a pH of about 7.5 or less and

7 [2] since ammonia is a well-known base, it would have been
8 obvious to employ such a well-known base in the composition of Tsao
9 to provide a pH of about 7.5 or less.

10 Examiner's Answer 7.

11 Haas does not challenge the Examiner's findings in the Reply Brief.

12 On this record we therefore have the Examiner's uncontested findings
13 and we have no independent reason to question those findings.

14 The fact that Haas might have argued that the findings are not
15 supported by the evidence is of no avail when—as here—a challenge is not
16 timely presented.

17 Based on the unchallenged findings made by the Examiner, we have
18 little difficulty holding that it would have been obvious to add ammonia to a
19 stabilized aqueous solution of hydrogen peroxide to obtain a proper pH
20 consistent with the objectives of Tsao.

21 Arguments by Haas

22 We have considered all arguments presented in the Appeal Brief and
23 Reply Brief.

24 Haas argues that the Examiner could not have found that the aqueous
25 solution of Tsao "inherently" does not have an alkali metal, an alkaline earth

1 metal or an amine with a pK_B of less than 4.5. This line of argument is highly
2 peculiar in this case because Tsao does not say that its aqueous solutions
3 have an alkali metal, an alkaline earth metal or an amine with a pK_B of less
4 than 4.5. So it is not clear to us why Haas insists that the Examiner had to
5 prove that Tsao "inherently" would not have an alkali metal, an alkaline
6 earth metal or an amine with a pK_B of less than 4.5.

7 Another argument which appears throughout the prosecution is that
8 "commercial" hydrogen peroxide solutions have high amounts of alkali
9 metal ions and/or amines. But, the claims are not limited to "commercial"
10 hydrogen peroxide solutions. Nor do the claims require that the hydrogen
11 peroxide be made by the anthraquinone process. Haas bottoms the
12 "commercial" and "made by anthraquinone process" argument on limitations
13 which do not appear in the claims. Hence, we find these arguments to be
14 entitled to little, if any, weight.

15 In the Examiner's Answer, the Examiner found (for the first time
16 during the prosecution) that certain compounds were present in the Tsao
17 compositions in amounts called for by the claims. Examiner's Answer 4.
18 Haas in the Reply Brief presents some calculations hoping to establish that
19 the Examiner is wrong. There was no Supplemental Examiner's Answer so
20 we were basically left with no views from the Examiner on the Haas
21 calculations. However, given our rationale for affirmance, which differs
22 from the rationale used by the Examiner to reject, we need not consider
23 whether the Haas calculations answer the Examiner's findings. The portion
24 of Tsao upon which we rely does not describe the presence of alkali metals
25 or alkaline earth metals.

1 On page 3 of the Appeal Brief, Haas says "[c]laims 2 to 15 stand or
2 fall together and are not argued separately in the following arguments." But,
3 the "following arguments" proceed to discuss limitations in each of claims 2
4 to 15. Which is it? Do the claims stand or fall together or do they not? The
5 Examiner was obviously perplexed by the dilemma presented by Haas and
6 decided that Haas was "implicitly arguing these claims." Examiner's
7 Answer 3. In this case, we have addressed each claim. However, applicants
8 should not leave the Examiner or the Board to guess what they are arguing.

9 We would further note that in the arguments dealing with some of the
10 dependent claims, all Haas does is point out a difference: "Claim 9 differs
11 from Claim 1 by specifying ..." and "[t]he cited reference does not mention
12 amines of any kind." The mere fact that a claim differs from a reference
13 does not establish non-obviousness. *Dann v. Johnston*, 425 U.S. 219, 230,
14 189 USPQ 257, 261 (1976).

15 We have considered Haas' remaining arguments and find none that
16 warrant reversal of the Examiner's rejection. *Cf. Hartman v. Nicholson*,
17 483 F.3d 1311, 1315 (Fed. Cir. 2007).

18 **G. Conclusions of law**

19 Haas has not sustained its burden on appeal of showing that the
20 Examiner erred in rejecting the claims on appeal as being unpatentable under
21 35 U.S.C. § 103(a) over Tsao.

22 On the record before us, Haas is not entitled to a patent containing
23 claims 1-15.

1 **H. Decision**

2 ORDERED that the decision of the Examiner rejecting
3 claims 1-15 over Tsao is *affirmed*.

4 FURTHER ORDERED that since our claim interpretation has
5 not previously been discussed on the record and because we have applied
6 Tsao in a manner different from the Examiner, our affirmance is designated
7 as a new rejection. 37 C.F.R. § 41.50(b) (2006).

8 FURTHER ORDERED that our decision is not a final agency
9 action.

10 FURTHER ORDERED that within **two (2) months** from the
11 date of our decision appellant may further prosecute the application on
12 appeal by exercising one of the two following options:

13 1. Request that prosecution be reopened by submitting
14 an amendment or evidence or both. 37 C.F.R. § 41.50(b)(1) (2006).

15 2. Request rehearing on the record presently before the
16 Board. 37 C.F.R. § 41.50(b)(2) (2006).

17 FURTHER ORDERED that no time period for taking any
18 subsequent action in connection with this appeal may be extended under
19 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED
(37 C.F.R. § 41.50(b) (2006))

Appeal 2007-2985
Application 010/669,978

cc (via First Class mail)

SMITH, GARMBREEL & RUSSELL
Suite 3100, Promenade II
1230 Peachtree Street, N.W.
Atlanta, GA 30307-3592